

ITEM: 11

SUBJECT: Malakoff Diggins State Historic Park, Sediment and Mercury Mobilization, Nevada County

BOARD ACTION: *Informational Item Only*

BACKGROUND: An overview of the history and purpose of Malakoff Diggins State Historic Park and a summary of the sediment and mercury issues will be discussed.

BACKGROUND: Malakoff Diggins State Historic Park (Malakoff Diggins) was a former hydraulic gold mine that operated from 1853 to 1884. Hydraulic mining used high-pressure water to wash away the overlying vegetation, boulders, gravels, and soil to get to the auriferous (gold bearing) river gravels. The water-sediment slurry that was created from this activity was directed through sluice boxes where mercury was added to enhance gold recovery.

The Malakoff Mine pit is 7,000 feet long, 3,000 feet wide, and nearly 500 feet deep. The hydraulic mining operation removed about 41 million cubic yards of material between 1866 and 1884 and washed it into Humbug Creek which is tributary to the South Fork Yuba River. Today, surface water runoff causes landslides and erosion in the mine pit which results in turbid surface water discharges to these water bodies.

ISSUES: The Malakoff Mine pit discharges turbid, sediment-laden water that includes particulate-bound mercury and other metals to Humbug Creek and the South Fork Yuba River. A two-mile section of Humbug Creek is 303(d) listed for sediment, mercury, copper, and zinc, and the South Fork Yuba River from Rucker Creek to Lake Englebright is 303(d) listed for mercury. Mercury trapped in the sediment at Malakoff Diggins constitutes a potential risk to human and ecosystem health.

Malakoff Diggins State Historic Park was created in 1965 as a unit of the California State Parks system to preserve the legacy and story of the country's largest hydraulic gold mining operation and the devastation caused by the hydraulic mining era. The mine pit, with its scarred land forms and cliffs, has significant historic and recreation value. Working under a grant from the Sierra Nevada Conservancy, the Sierra Fund (a 501(c)(3) nonprofit based in Nevada City) completed a watershed assessment in 2014 and is conducting on-going water quality monitoring. The estimated timeline for Malakoff Diggins remediation work is in 2021, however, the post-2015 work is currently unfunded.